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Juanita Parris

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NORRIS, MCLAUGHLIN & MARCUS, PA
875 THIRD AVENUE
18TH FLOOR
NEW YORK, NY 10022

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SHOSHO, CALLIE E

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/034,005
Filing Date: December 28, 2001
Appellant(s): PARRIS ET AL.

Catherine Roseman Smith
For Appellant

EXAMINER'S ANSWER

**MAILED
MAY 16 2007
GROUP 1700**

This is in response to the appeal brief filed 1/8/07 appealing from the Office action
mailed 12/1/05.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

Ground of rejection (iii) does not disclose that Thomm et al. (U.S. 3,846,507) and Login (U.S. 4,089,741) are used as evidence references. Ground of rejection (iii) should read:

“(iii) Claims 1-2, 6, 8-9, 11-12, 15, 19-20, and 22-24, which are rejected under 102(b) as being anticipated by EP 116666 in view of the evidence of Thomm et al. (U.S. 3,846,507) and Login (U.S. 4,089,741).”

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 5,670,561 A	Scheibelhoffer et al.	9-1997
US 4,234,466 A	Takahashi et al.	11-1980
EP 116666 A1	Burlone	8-1984
US 3,846,507 A	Thomm et al.	11-1974
US 4,098,741 A	Login	7-1978

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1-2, 12-13, 19, and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Scheibelhoffer et al. (U.S. 5,670,561).

Scheibelhoffer et al. disclose method of making dry color concentrate, i.e. solventless universal base composition, comprising dispersing a pigment in a resin wherein the resin is obtained from both hydrophobic, i.e. styrene, monomer and hydrophilic, i.e. maleic anhydride, monomer in ratio of hydrophobic monomer to hydrophilic monomer of, for instance, 3/1 or 1/1. The resin has molecular weight of 500-3000 while the pigment is present in the color concentrate in amount of 25-95%. The pigment is dispersed in the resin in the presence of additives such as surfactant (col.1, lines 9-10, col.1, line 64-col.2, line 6, col.2, lines 40-42, col.4, lines 42-67, col.5, lines 54-65, and col.7, lines 38-44 and 65-66). Given that the resin contains both hydrophobic monomer and hydrophilic monomer that are present in ratio as presently claimed, it is clear that the resin will inherently be soluble in both water and organic solvent as presently claimed.

In light of the above, it is clear that Scheibelhoffer et al. anticipate the present claims.

2. Claims 1-2, 9, and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. (U.S. 4,234,466).

Takahashi et al. disclose method of making solid pigment dispersion, i.e. solventless universal base composition, comprising dispersing a pigment in polyester wherein the polyester is obtained from both hydrophobic monomer and hydrophilic monomer. The pigment is present in the color concentrate in amount of 1-70%. The pigment is dispersed in the resin in the presence of additives (col.2, lines 25-32, col.3, lines 25-26 and 56-58, col.4, lines 9-13, and col.5, lines 26-31). Given that the polyester contains both hydrophobic monomer and hydrophilic

monomer that are present in ratio as presently claimed, it is clear that the polyester will inherently be soluble in both water and organic solvent as presently claimed.

From example 2, it is calculated that the ratio of hydrophobic monomer to hydrophilic monomer present in the polyester is approximately 0.22 (19.7/88).

In light of the above, it is clear that Takahashi et al. anticipate the present claims.

3. Claims 1-2, 6, 8-9, 11-12, 15, 19-20, and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 116666 taken in view of the evidence of Thomm et al. (U.S. 3,846,507) and Login (U.S. 4,098,741).

EP 116666 discloses method of making color concentrate, i.e. solventless universal base composition, comprising dispersing a pigment in a resin wherein the resin is obtained from both hydrophobic monomer and hydrophilic monomer and is soluble in both water and organic solvent. The pigment is present in the color concentrate in amount of 1-70% and is in the form of a presscake. The resin has softening temperature of 130-350 °C (col.1, lines 3-5 and 27-34, col.2, lines 7-10, col.5, lines 7-17, 22, 24-27, and 31-33, col.6, lines 4-9, col.7, lines 9-31, and col.11, lines 20-35).

EP 116666 discloses that the resins include acrylic resin comprising hydrophobic monomer and hydrophilic monomer in ratio of, for instance, 4/1 (example 15) as well as polyamide and polyester. When discussing the use of specific types of polyamide and polyester in the examples, EP 116666 refers to Thomm et al. and Login, respectively. Example 2 of Thomm et al. disclose polyamide made from hydrophobic and hydrophilic monomer present in ratio of approximately 0.70 (232+116)/(226+268). Login discloses the use of polyester which

has acid number of 5-15 and molecular weight of 4000-11000 (col.5, lines 15-19) which is obtained from hydrophobic monomer and hydrophilic monomer in ratio of, for instance 1.14/1 (598/(467+56.8)) (see Example 1).

In light of the above, it is clear that EP 116666 anticipates the present claims.

(10) Response to Argument

Appellants argue that Scheibelhoffer et al. is not a proper reference against the present claims given that Scheibelhoffer et al. (i) fails to teach resin that is soluble in both water and organic solvent and (ii) do not disclose the total weight of hydrophobic and hydrophilic monomers as presently claimed.

With respect to (i), it is agreed that there is no explicit disclosure in Scheibelhoffer et al. that the resin is soluble in both water and organic solvent. However, given that Scheibelhoffer et al. disclose styrene-maleic anhydride copolymer possessing both hydrophobic monomer, i.e. styrene, and hydrophilic monomer, i.e. maleic anhydride, as presently claimed and given that Scheibelhoffer et al. disclose that the ratio of hydrophobic monomer to hydrophilic monomer is 3/1 or 1/1, which fall squarely within the ratio of hydrophobic monomer to hydrophilic monomer as presently claimed, it is clear that the copolymer would inherently be soluble in both water and organic solvent as presently claimed. While appellants state that the examiner is mistaken in this position, appellants offer no arguments or evidence as to why the examiner's position is incorrect.

Appellants further argue on page 7 of the Appeal Brief filed 1/8/07 that the multiple supporting references cited by the examiner fail to (a) prove that Scheibelhoffer et al. as the

primary reference contains an “enabled disclosure”; (b) explain the meaning of a term used in the primary reference; or (c) show that a characteristic not disclosed in Scheibelhoffer et al. is inherent.

However, it is noted that the examiner did not utilize any supporting references in the rejections of record with respect to Scheibelhoffer et al. As seen in paragraph 2 of the non-final office action mailed 8/21/03 and paragraph 2 of the final office action mailed 12/11/05 as well as paragraph 1 of “Grounds of Rejection” set forth above and the “Grounds of Rejection to be Reviewed on Appeal” cited by appellants themselves on page 3 of the Appeal Brief, Scheibelhoffer et al. is not and has not been utilized in combination with any supporting references. Scheibelhoffer et al. alone is used to reject claims 1-2, 12-13, 19, and 21-24.

Boessler et al. and Gabriel et al., referred to by appellants on pages 6-7 of the Appeal Brief filed 1/8/07, were merely cited as evidence in examiner’s response to appellants’ arguments in the final rejection of 12/1/05 (see last line page 3-page 4) in order to support the well recognized position set forth by the examiner in the 35 USC 102 rejection of record utilizing Scheibelhoffer et al. that the polymer of Scheibelhoffer et al. obtained from hydrophobic monomer, i.e. styrene, and hydrophilic monomer, i.e. maleic anhydride, as presently claimed in ratio of hydrophobic monomer to hydrophilic monomer as presently claimed, i.e. 3/1 or 1/1, would inherently be soluble in both water and organic solvent as presently claimed. Specifically, Boessler et al. was utilized to cite the well recognized fact that hydrophobic monomers promote solubility in organic solvent and limit solubility in water and that hydrophilic monomers promote solubility in water while Gabriel et al. was utilized to cite the well recognized fact that the solubility of styrene maleic anhydride copolymer in solvent increases as the ratio of styrene

monomer to maleic monomer increases. These references are not required to be, and were never part of, the 35 USC 102 rejection utilizing Scheibelhoffer et al. given that Scheibelhoffer et al. alone, either explicitly or inherently, already meets all the requirements of the present claims.

With respect to (ii), appellants argue that there is no requirement in Scheibelhoffer et al. regarding the total weight of the hydrophobic and hydrophilic monomers based on the total weight of the resin.

However, it is noted that the present claims require that the total weight of the hydrophobic and hydrophilic monomers is “at least about 20%” of the total weight of the resin, wherein the limitation of “at least about 20%” clearly encompasses total weight of hydrophobic and hydrophilic monomers of at least about 20% to 100% of the total weight of the resin. Given that the copolymer of Scheibelhoffer et al., i.e. styrene-maleic anhydride, is obtained entirely from hydrophobic monomer, i.e. styrene, and hydrophilic monomer, i.e. maleic anhydride, it is clear that the hydrophobic and hydrophilic monomers comprise the entire weight of the polymer, i.e. 100%, which clearly meets the requirement of the present claims regarding the total weight of the hydrophobic and hydrophilic monomers.

With respect to Takahashi et al., appellants argue that Takahashi et al. fail to teach that the resin must contain hydrophilic and hydrophobic monomer, that the hydrophobic and hydrophilic monomers are at least 20% of the total weight of the resin and that the ratio of hydrophobic monomer to hydrophilic monomer is 1/5 to 5 as presently claimed.

It is noted that Takahashi et al. disclose method of making solid pigment dispersion, i.e. solventless universal base composition, comprising dispersing a pigment in polyester. From

example 2 of Takahashi et al., it is calculated that the ratio of hydrophobic monomer, i.e. neopentyl glycol, to hydrophilic monomer, i.e. phthalic anhydride, thioglycollic acid, and trimethylolpropane, present in the polyester is approximately 0.22 (19.7/88).

While Takahashi et al. do not explicitly refer to any of the monomers utilized as either hydrophobic or hydrophilic, a reference does not explicitly have to disclose that a monomer is hydrophobic or hydrophilic in order for such monomers to be recognized as such especially given that monomers are well recognized as being hydrophobic or hydrophilic. It is the examiner's position, absent evidence to the contrary, that neopentyl glycol is hydrophobic while phthalic anhydride, thioglycollic acid, and trimethylolpropane are hydrophilic.

Appellants argue that examiner's calculation based on example 2 of Takahashi et al. is incorrect given that neopentyl glycol is water-soluble, phthalic anhydride is insoluble, and that the ratio of phthalic anhydride, i.e. insoluble monomer, to thioglycollic acid, i.e. water-soluble monomer, is calculated as 11 (55/5) which is outside the scope of the present claims.

However, while appellants argue that neopentyl glycol is water-soluble and phthalic anhydride is insoluble, appellants have offered no evidence to support this position. Further, even if it were agreed that neopentyl glycol is water-soluble and phthalic anhydride is insoluble, the ratio of hydrophobic monomer to hydrophilic monomer would not be 11 as calculated by appellants but rather 1.04 ($55/(5+28+19.7)$), which falls within the scope of the present claims. While appellants argue that the ratio of hydrophobic monomer to hydrophilic monomer is 11, such calculation is based on only two of the four monomers utilized to form the polyester of example 2 of Takahashi et al. The present claims, however, clearly require the ratio of all hydrophobic monomers to all hydrophilic monomers, i.e. claims require ratio of hydrophobic

monomers to hydrophilic monomers. Thus, not only is appellants calculation of ratio of hydrophobic monomer to hydrophilic monomer not commensurate in scope with the scope of the present claims given that it does not calculate the ratio of all hydrophobic monomers to all hydrophilic monomers, it is the examiner's position, contrary to appellants, that phthalic anhydride is a hydrophilic monomer and neopentyl glycol is a hydrophobic monomer. Additionally, even if it were agreed that neopentyl glycol is water-soluble and phthalic anhydride is insoluble, it is the examiner's position that the ratio of hydrophobic monomer to hydrophilic monomer would then be calculated as 1.04 which also falls within the scope of the present claims.

Appellants argue that there is no disclosure in Takahashi et al. regarding the total weight of the hydrophobic and hydrophilic monomers based on the total weight of the resin.

However, it is noted that the present claims require that the total weight of the hydrophobic and hydrophilic monomers is "at least about 20%" of the total weight of the resin, wherein the limitation of "at least about 20%" clearly encompasses total weight of hydrophobic and hydrophilic monomers of at least about 20% to 100% of the total weight of the resin. Given that the polyester of Takahashi et al. is obtained entirely from hydrophobic monomer, i.e. neopentyl glycol, and hydrophilic monomer, i.e. phthalic anhydride, thioglycollic acid, and trimethylolpropane, it is clear that the hydrophobic and hydrophilic monomers comprise the entire weight of the polymer, i.e. 100%, which clearly meets the requirement of the present claims regarding the total weight of the hydrophobic and hydrophilic monomers.

With respect to EP 116666, appellants argue that EP 116666 does not teach all the elements of the presently claimed invention. Specifically, appellants argue that EP 116666 does not teach the total weight of the hydrophobic and hydrophilic monomers is at least about 20% of the total weight of the resin or that the ratio of hydrophobic monomer to hydrophilic monomer is from about 1/5 to about 5.

However, attention is drawn to example 15 of EP 116666 that discloses resin obtained from hydrophobic monomer, i.e. ethyl acrylate, and hydrophilic monomer, i.e. sulfoethyl methacrylate, in ratio of 4/1. Such ratio falls squarely within the presently claimed ratio of hydrophobic monomer to hydrophilic monomer of about 1/5 to about 5. Further, it is noted that the present claims require that the total weight of the hydrophobic and hydrophilic monomers is “at least about 20%” of the total weight of the resin, wherein the limitation of “at least about 20%” clearly encompasses total weight of hydrophobic and hydrophilic monomers of at least about 20% to 100% of the total weight of the resin. Given that the polymer of EP 116666 is obtained entirely from hydrophobic monomer, i.e. ethyl acrylate, and hydrophilic monomer, i.e. sulfoethyl methacrylate, it is clear that the hydrophobic and hydrophilic monomers comprise the entire weight of the polymer, i.e. 100%, which clearly meets the requirement of the present claims regarding the total weight of the hydrophobic and hydrophilic monomers.

Appellants argue that EP 116666, as well as the examiner, fails to classify the monomers as either hydrophilic or hydrophobic. While EP 116666 does not explicitly classify ethyl acrylate or sulfoethyl methacrylate as hydrophobic or hydrophilic, it is the examiner’s position that it is well recognized that ethyl acrylate is hydrophobic and sulfoethyl methacrylate is hydrophilic. EP 116666 does not have to explicitly refer to ethyl acrylate as hydrophobic and sulfoethyl

methacrylate as hydrophilic in order for them to be recognized as such. By stating that the ratio of hydrophobic monomer to hydrophilic monomer is 4/1, it is clear that the examiner is classifying ethyl acrylate as hydrophobic and sulfoethyl methacrylate as hydrophilic. Additionally, it is noted that page 2, lines 9-10 of EP 116666 discloses that the resin of EP 116666 is soluble in both water and organic solvent.

Thus, it is clear that the polymer of example 15 of EP 116666 clearly meets the requirements of the present claims.

Appellants also argue that neither Thomm or Login, which are utilized as evidence references with EP 116666, "make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be so recognized by persons of ordinary skill".

However, it is noted that Thomm et al. and Login are not used to supply missing descriptive matter but are used as evidence references given that EP 116666 itself explicitly refers to both Thomm et al. and Login. Attention is drawn to example 1 of EP 116666 that discloses the use of "the water-dispersible polyamide of USP 3,846,507", i.e. Thomm et al., and to example 11 of EP 116666 that discloses the use of "the water-dispersible polyester of USP 4,098,741", i.e. Login. Thus, given that EP 116666 explicitly refers to Thomm et al. and Login, it is clear that these references are not used to supply descriptive matter missing from EP 116666. By explicitly referring to Thomm et al. and Login, it is clear that the polymers of Thomm et al. and Login are part of the disclosure of EP 116666. Although EP 116666 refers to the polyamide of Thomm et al. and the polyester of Login, EP 116666 only refers to the references themselves and the polyamide and polyester generically but does not explicitly

describe the details of the polyester or polyamide which is why Thomm et al. and Login are used as evidence references to explain what is meant by polyester and polyamide generically disclosed by EP 11666.

Appellants argue that Thomm et al. and Login do not serve the purpose of supporting references as detailed in MPEP 2131.01

However, it is noted that MPEP 2131.01 II discloses that extra references can be utilized in 35 USC 102 rejections to show the meaning of a term used in the primary reference and that “extrinsic evidence may be used to explain but not expand the meaning of the terms and phrases used in the reference relied upon as anticipatory of the claimed subject matter”, *In re Baxter Travenol Labs.*, 952 F.2d 388, 21 USPQ2d 1281 (Fed. Cir. 1991).

Given that EP 11666 explicitly refers to the polyamide of Thomm et al. and the polyester of Login and that Thomm et al. and Login are used to explain the specifics of the polyamide and polyester generically referred to by EP 116666, the use of Thomm et al. and Login as evidence references is clearly to explain the meaning of “polyamide” and “polyester” referred to by EP 116666 and thus, it is the examiner position that the combination of EP 116666 in view of the evidence given in Thomm et al. and Login is proper.

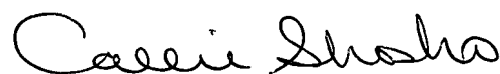
(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

Art Unit: 1714

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



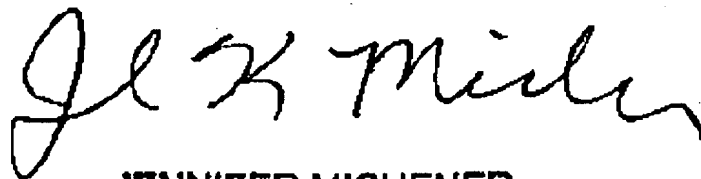
Callie Shosho
Primary Examiner
AU 1714

CS
5/11/07

Conferees:



Vasu Jagannathan



JENNIFER MICHENER
QUALITY ASSURANCE SPECIALIST

Jennifer Michener